1904, *Bissell*. NEW YORK: bog west of Ampersand Lake, July 13, 1899, *Rowlee, Wiegand & Hastings*; Albany, *Torrey*; quaking morass on Hidden Lake, Litchfield, June 27, 1901, *Haberer*, no. 1006; sphagnum bog, Duck Lake, Conquest, July 1, 1916, *McDaniels, Metcalf & Wiegand*, no. 5477; open moor of Junius Peat Bog, Waterloo, June 20, 1914, *Thomas & Wiegand*, no. 1520. NEW JERSEY: bogs, Budd's Lake, Morris Co., June 25, 1869, *C. F. Parker*. PENNSYLVANIA: Grass Lake, Pocono Mt., August 19, 1863, *Traill. Green*; kettle hole bog, Pocono Plateau, July 15, 1904, *Harshberger*. ONTARIO: bogs, Mere Bleue, June 15, 1898, *Macoun*, no. 67,792. MICHIGAN: sphagnum bog, Mud Lake, Cheboygan Co., July 28, 1917, *Ehlers*, no. 568. WISCONSIN: peat bogs, Marinette Co., July 6, 1891, *Schuette*. ILLINOIS: Ringwood, 1860, *Vasey*. MINNESOTA: White Bear Lake, July 17, 1888, *Schuette*. IOWA: Armstrong, August 8, 1884, *Cratty*. MANITOBA: between Cumberland House (Sask.) and Hudson Bay, *Richardson*. CALIFORNIA: Sierra Co., 1875, *Lemmon*, no. 1037. WASHINGTON: swamps at 610–915 m. (2–3000 ft.) alt., Skamania Co., Sept. 2, 1893, *Suksdorf*, no. 1327; White Salmon, 1878, *Suksdorf*; Colville to the Rocky Mts., 1861, *Lyall*.

There are many excellent illustrations of typical *Scheuchzeria palustris* of Europe, for instance, Flora Danica, i. t. 76 (1766); Nees, Gen. Pl. Germ. ii. t. 24 (1843); Reichenb. Ic. Fl. Germ. x. t. 419 (1848); Engl. Bot. ed. Syme, ix. t. 1435 (1873); Thomé, Fl. von Deutschl. i. t. 34A (1886).

GRAY HERBARIUM.

NOTES ON TREES AND SHRUBS OF THE SOUTHEASTERN UNITED STATES.

W. W. ASHE.

? × **Quercus caput-rivuli**, sp. nov. A tree 6–12 m. high, 1–3 dm. in diameter with somewhat pendulous lower branches. Bark on trunk at the base of larger trees nearly black, deeply furrowed and cross-checked, above gray and nearly smooth. Twigs slender, pubescent with short brown stellate hairs, partly persistent until the second year. Leaves prevailingly broadly obovate, undulate or rarely slightly 3-lobed at the broad apex, cuneate or abruptly narrowed or sometimes even rounded at the base, blades 7–14 cm. long, 5–10 cm. wide, firm, dark green and glabrate above, at first more or less stellate-pubescent beneath, at length glabrate except for tufts in the axils of the 3–5 pairs of prominent lateral veins, which (and usually the midrib as well) divide up near the margins of the blades and consequently are seldom extended as awns; petioles 6–8 mm.

long, pubescent. Nut, maturing the second year, depressed or subglobose, slightly broader than long, 10–12 mm. thick, pubescent, dark brown, about one third covered by the rather deep flat-bottomed cup with thin edge formed of several rows of appressed closely pubescent silvery brown scales. Aments about 4 cm. long, rather loose.

Growing on sandy soil near Crestview, Florida, with many other oaks. The nut is strongly suggestive of that of *Quercus megacarpa* Ashe[1] of the same general region, but the leaves of *megacarpa* are much contracted in the middle, and are glabrous beneath. The foliage resembles that of *Q. arkansana* Sarg.[2] but the petioles are much shorter and the upper pair of lateral veins are less prominent and are rarely extended as awns.

Carya ovalis mollis, var. nov. Having the fruit of the type and with its red petioles and large leaflets, but the leaflets soft-pubescent beneath. Dry crests of ridges, Twin Creeks, Adams County, Ohio.

For several years various forms of the dwarf rose-flowered locusts (*Robinia*) of the southeastern United States have been cultivated. Many of these forms when cultivated failed to set fruit and if the wild plants of these forms fruited it was seldom. A number of years ago Meehan noticed this in the case of *Robinia hispida* L. At one time this absence of fruit was thought to be due to failure to secure cross fertilization on account of the absence of proper insects from plants in cultivation. Subsequently these barren forms were regarded as sterile hybrids. The wide and general distribution of some of these plants, however, seemed to render this view untenable. Later the fact that not infrequently a fruiting form and a barren form were widely associated led to the conclusion that both might be forms of the same species. Following this idea there were included in the description of *R. grandiflora* Ashe[3] two plants which frequently grow together, one producing fruit, the other apparently barren, but connected by a more or less intermediate form. Attempts at cross fertilization and two seasons' further study both of wild and cultivated plants indicate that these forms have no such complementary relation but are better regarded as distinct species. Similarly the form recently described as *R. unakae* Ashe[4] was held to be the fertile component of *R. hispida* and the statement made that *R. hispida* freely produced fruit and that plants had been grown from its seed.

[1] Bul. Charleston Mus. 14, 9 (1918).
[2] Trees and Shrubs 2, 121 (1913).
[3] Journ. Mitchell Sci. Soc. 37, 176 (1922).
[4] Op. cit. 39, 111 (1923).

From present information it appears that a large number of these species do not fruit, or if so only when wild and then seldom. Bean[1] ascribes this to absence of pollen. Large groups of plants, however, if exclusively of vegetative origin, are properly regarded as a single plant so far as cross-fertilization is concerned.

The description of *R. grandiflora* was largely drawn from fruiting specimens collected July, 1900, on Grandfather Mountain, N. C., but it seems desirable to revise the description so as to limit it to this plant which has now been cultivated for two years as well as again studied growing wild at Wiseman's Bluff, Linville Mt. and at the type locality.

ROBINIA GRANDIFLORA Ashe (Journ. Mitchell Sci. Soc. 37: 176. 1922). A shrub .6–1 m. high or in cultivation becoming 1.6 m. high, with peduncle, calyx, rachis and petiole more or less hispid especially on young plants and with vigorous shoots densely hispid; but on old plants the twigs and shoots may be nearly or quite free of setae. Young twigs especially on old plants, peduncles and leaflets on unfolding closely grayish pubescent as well as petioles and rachises. Leaflets 9–15, elliptic or broadly ovate, rounded at the ends, 1.8–3.1 mm. wide, pale beneath when mature. Flowers about 20 mm. long, pale rose or pale purplish-rose with white, 4–8 in a raceme, peduncles pubescent and hispid, on young plants densely hispid, on old ones sparingly so; calyx 8–10 mm. long, the lobes long-acuminate, much inflated in fruit, hispid, on very young plants densely so and more or less pubescent, part of the hairs being sometimes gland-tipped. Leaves bronze on unfolding.

Linville Mountain, N. C., where not uncommon or at Wiseman's Bluff very common and associated with *R. speciosa*. Flowers from a cultivated plant.

Robinia speciosa, sp. nov. (*R. grandiflora* Ashe, in part). A much branched shrub propagating by root-suckers, 1–1.5 m. high or in cultivation becoming 2 m. high; branchlets dull tan, stipular spines wanting. Young shoots covered with short pale brown pubescence often becoming glabrate, vigorous shoots hispid with pale setae. Leaves of 9–13 ovate or elliptic-ovate, abruptly pointed or obtuse leaflets, 22–34 mm. wide, on unfolding deep bronze and covered beneath with pale gray or yellowish-gray pubescence as well as petiole and rachis. Flowers large, 21–24 mm. long, bright rose and pink with white, in 5–8-flowered racemes; calyx broad, 8–10 mm. long, brownish-gray pubescent and sparingly hispidulose, the 4 mm. long lobes abruptly acuminate; peduncles 3.5–6 cm. long, pubescent and usually slightly hispidulose.

[1] Trees and Shrubs Cult. Brit. 2, 410.

Common on Grandmother Mt., Linville Mt., and Pixie Mt., N. C., and plants from each place in cultivation. A plant now in cultivation, which, however, has not yet flowered, seems to be a nearly or quite glabrous form. Several live plants of this have been distributed as *R. grandiflora* and at least a portion of the herbarium specimens in flower distributed under this name belong here.

Robinia pallida, sp. nov. (*R. grandiflora* Ashe, in part). A shrub propagating by root-suckers, 3–6 dm. high, or in cultivation becoming 2 m. high; stems pale brown with few short greenish-brown branchlets at the summit; stipular spines wanting. Shoots at first covered with close light gray pubescence, becoming glabrate; peduncles and often petioles, rachis and vigorous shoots more or less hispid with pale setae. Inflorescence, rachis and lower surface of leaflets until mature covered with pale gray often appressed pubescence. Leaves are of 9–15 ovate or oblong-ovate sharply acute leaflets, 4–5.5 cm. long, green on unfolding, very pale beneath. Flowers large, 21–23 mm. long, pale rose and pale purplish-rose with much white, in 5–9-flowered racemes; calyx broad, 8–10 mm. long, gray, pubescent and sparingly hispidulose, the lobes about 4 mm. long and abruptly acuminate; peduncles 5–6 cm. long.

Slopes of the Blue Ridge, Caldwell county, N. C. Plants in cultivation since 1916 collected on the road from Patterson to Blowing Rock, N. C. In cultivation blooms just after *R. speciosa*. This plant was included in the original description of *R. grandiflora* and some plants of it were distributed under that name.

All three of the above proposed species have quite similar pubescence. As the flowering season is short this similarity in the pubescence has been confusing. *Grandiflora* is quite hispid. *Pallida* and *speciosa* are copiously hispid only on vigorous shoots; neither is known to fruit; *grandiflora* fruits freely. In many respects *pallida* is intermediate between *speciosa* and *grandiflora*. When their extreme forms are compared in cultivated plants their differences are very apparent.

Robinia fertilis, sp. nov. A shrub becoming in cultivation 2 mm. high; petiole, rachis, peduncle, calyx and stout twigs hispid, with more or less loose short pubescence, or much longer on calyx and peduncle, intermixed. Leaves from 22 to 30 cm. long of 15–19, usually 17, oblong-ovate, nearly glabrous leaflets, from 17–25 mm. wide. Peduncle stout, 5.3–8 cm. long, 5–9-flowered; flowers about 22 mm. long; calyx 9–11 mm. long, lobes long-acuminate, pubescent and with some gland-tipped hairs. Fruit 3–5.5 cm. long densely hispid; seed 3–4 mm. long.

In cultivation the flowering season of this showy plant, much like *R. hispida*, is prolonged. It has the same habit as *hispida* and becomes a symmetrical treelike shrub, 1.3 to 2 m. high.

Robinia boyntonii Ashe,[1] as described, is an aggregate though the major part of the description was based upon a single and well known plant. The description of the fruit was drawn from an herbarium specimen which was later recognized as being different from the flowering plant. Groups of *R. boyntonii* examined for several years have not been known to produce fruit. It is probably one of the forms which does not produce fruit.

Robinia longiloba Ashe[2] was described largely from a plant which is now in cultivation, but the description of the fruit was drawn from an herbarium specimen originally included in *R. boyntonii*. More recently living plants which agree in all particulars with this fruiting specimen have been located and are now in cultivation. These plants differ so strikingly from *R. longiloba* that they have been separated from it as *R. pedunculata* Ashe[3] in allusion to the elongated peduncles. In cultivation it fruits freely. *R. longiloba*, as cultivated, or in two groups of wild plants numbering several hundred stems, has not been known to fruit.

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PLANT NOTES FROM SQUAM LAKE, NEW HAMPSHIRE.

H. K. SVENSON.

SQUAM LAKE lies in the foothills of the White Mountains, and is one of the group of lakes which extends from central New Hampshire to southwestern Maine. Its area is about fifteen square miles, including numerous coves, islands, and little bays. These plant notes refer to a small area at the northwestern corner of the lake, in the town of Holderness, Grafton County, and were obtained during the summer of 1921 in connection with work at Camp Algonquin. Rattlesnake Mountain, a hill rising from the lake to the height of about thirteen hundred feet, is probably the most interesting single locality. Composed of a rapidly disintegrating granitic rock, it is marked by

[1] Op. cit. 14, pt. 2, 51 (1897).
[2] Bul. Charleston Mus. 14, 30 (1918).
[3] Journ. Mitchell Sci. Soc. 39, 111 (1923).